

Standards and Calibration Laboratory

Training and Qualification

Prepared by:

Date

Reviewed by:

Date

Approved by:

Allen L. Gauler, Group Leader

Date

TRAINING AND QUALIFICATION PROCEDURE

1.0 Purpose

This procedure describes the Standards and Calibration Laboratory training and qualification program. It specifies the requirements for technical training, training in matters relating to the environment, safety and health, and training in the requirements of the quality assurance program, as well as training for new employees and visitors.

In order to provide the best and most efficient service to the Laboratory, it is essential that all Standards Lab personnel be well qualified and that their training continue throughout their careers. ESH-9 operates an on-the-job training program for Calibration Technicians leading to their full qualification in the field of calibration. Most other personnel are qualified by means of a documented assessment of their skills in relation to their job description.

2.0 TRAINING RECORDS

The Administrative Assistant will maintain a Training and Qualification file for each member of the group. These files will contain the documents referred to in this procedure, along with a listing of all university classes, short courses, and seminars attended by the employee.

3.0 TECHNICAL TRAINING AND QUALIFICATION FOR INDIVIDUALS WHO PERFORM CALIBRATIONS

Thorough and well-documented training and qualification of Calibrators is necessary because many calibrations must be performed without specific step-by-step instructions. Calibrators will be trained and qualified through an on-the-job training program except in certain instances where partial or full qualification may be achieved through an assessment of existing skills.

3.1.1 Category Training and Qualification

Calibrators will often be hired as trainees with little or no experience in metrology. They will be assigned to work under the direct supervision of the more experienced calibrators in each of the three sections of the group. These employees will conduct a program of on-the-job training supplemented when appropriate by individual study and educational courses. In the first stage of this training (category training), the Calibrator is trained to perform calibrations of specific categories of instruments. Each calibration performed by the trainee must be reviewed by a qualified trainer, who indicates his or her approval by initialing the history sheet for the calibration. Upon completion of training for a category, the Calibrator is qualified by the trainer to perform this type of calibration independently using the Category Qualification Record (see appendix)

3.1.2 Area Qualification

As the Calibrator gains experience, he or she will be considered for area qualification. In this type of qualification, the employee is qualified to perform calibrations on all instruments that may be encountered in a certain area. Qualification is based upon the completion of a sufficient number and diversity of calibrations to assure a mature level of judgement with respect to new or different instruments in that area. Area Qualification is documented on the Area Qualification Record (see appendix). The qualification must be signed by the Team Leader in the area or by the Group Leader.

3.2 Waiver of Training

In certain cases, it may be necessary to certify a Calibrator based on existing skills. In these cases, the technician's Team Leader will assess his or her prior experience and education as it relates to the position. If it is concluded that training should be waived in certain areas, the results of the analysis will be documented in a written memo that is signed by the Team Leader and approved by the Group Leader. The memo will be retained in the technician's training file.

3.3 Group Leader and Team Leaders

The Group Leader and Team Leaders are qualified using the assessment method described in section 4.0 of this document. If they are determined to be qualified, their educational background and experience are accepted as evidence of competence for self-determination of proficiency to perform calibrations within the areas for which they have leadership responsibility.

3.3 Entry into Metrology Database

After a Calibrator has been qualified by one of the preceding methods, the qualification must be entered into the Metrology Database. The Team Leader or Group Leader originates this request by filling out and signing the Qualification Change Request Form (see appendix) and submitting it to the Database Manager.

4.0 TECHNICAL TRAINING AND QUALIFICATION USING THE ASSESSMENT METHOD

The Group Leader, Team Leaders, Programmer/QA Officer, QA Specialist, Administrative Assistant, and Material Handler are qualified using the assessment method. To complete this form of qualification, the supervisor writes a memo documenting the employee's job description and the factors, including relevant education and experience, that lead to the conclusion that the employee is qualified to perform the job. The memo is signed by the employee's supervisor and approved by the Group Leader, and is retained in the employee's training file. The minimum qualification requirements for each position are described below. It should be noted, however, that meeting these minimum requirements does not automatically grant qualification. The supervisor must still assess the skills of the employee and express his or her judgement in the assessment memo.

4.1 Minimum Technical Qualification Requirements

Group Leader:	Bachelor's degree or equivalent in a technical field related to metrology.
Team Leaders:	Bachelor's degree or equivalent in a technical field related to metrology, associate's degree plus five years of relevant experience, or ten years of relevant experience.
Programmer/QAO:	Associate's degree or equivalent in computer science or related field.
QA Specialist:	One year University certificate or equivalent in English, office management, or related field.
Administrative Asst:	One-year University certificate in office administration or equivalent.
Material Handler:	High school degree or equivalent and valid New Mexico driver's license.

5.0 TRAINING CONDUCTED OUTSIDE THE GROUP

Employees may be permitted to attend training conducted by organizations outside the group in order to enhance the job skills they bring to their work. Attendance at such training is subject to funding limitations and time constraints. Proposals for training must be approved by the employee's Team Leader and the Group Leader.

6.0 SELF-STUDY TRAINING

Technicians who are hired as trainees with little or no experience in metrology are required to pass a series of self-study modules selected by the Group Leader before advancement to senior technician status. These modules help to assure that each senior technician has a knowledge background that is appropriate for their position.

7.0 ENVIRONMENT, SAFETY, AND HEALTH TRAINING

7.1 Training Conducted Under the Control of the Laboratory

ES&H training that is conducted under the control of the Los Alamos National Laboratory (usually ESH Division) is mandated for specific members of the group, and retraining is conducted on a schedule determined by the Laboratory. Documentation of this training is mandated by the training organization and is documented on the Laboratory's training database.

7.2 Training Conducted Under the Control of the Group

ES&H training needs of each member of the Group are identified by an analysis of requirements set by the Group, the Laboratory, or regulatory agencies. Training needs are documented on the Employee Training Requirements data form (see appendix), which also contains the required frequency of retraining. Documentation of training and retraining is retained by the group in the employee's training file.

8.0 QUALITY ASSURANCE PROGRAM TRAINING

Training in the requirements of the ESH-9 quality assurance program is required for all Group employees. Training in specific aspects of the program (for example, software control) is required only for those employees engaged in certain types of work. Training requirements for each employee are documented on the Employee Training Requirements data form. Documentation of training and retraining is retained by the group in the employee's training file.

9.0 NEW EMPLOYEE TRAINING

New employees are oriented by means of training conducted by their supervisor or another experienced employee. Requirements for this training are contained on the New Employee Orientation Checklist (see appendix). Upon completion of the orientation, the supervisor and employee sign the form and it is retained in the employee's group training file.

10.0 VISITOR TRAINING

Visitors and transient employees such as the custodial staff must receive a safety briefing before entering any of the group's laboratory areas without an escort. Requirements for this training are contained in the Visitor Safety Guidelines (SCL-ESH-0004). The briefing may be administered by any of the group's employees. Upon completion of training, the Visitor Safety Guidelines Log is signed by the employee and the visitor, and is retained in the group visitor training file.

11.0 REQUALIFICATION

Every two years, the qualification of each ESH-9 employee will be reviewed by their Team Leader or supervisor. If the employee's job description has not changed and it is concluded that his or her job experience and education still qualify the employee for the original qualification, the qualification will be renewed. Renewal of qualification is documented by a memo from the supervisor explaining the reasons for the renewal. The memo is approved by the Group Leader and retained in the employee's training file.

Generally, qualifications will be renewed if the employee has performed the job specified in the original qualification within the past five years. If the employee's job description has changed and it is concluded that his or her experience and education qualify the employee for the new job description, the employee will be requalified. Requalification is documented in the same manner as an original qualification.

If it is concluded that the employee's experience and education do not qualify him or her for the job being performed, the supervisor and employee will jointly agree on a course of action. The course of action may include a training program to gain proficiency in certain areas, and may also include a temporary suspension of certain types of activities until the training is completed. The action plan will be documented in a memo from the supervisor that is retained in the employee's training file. Upon completion of the required actions, the employee's qualification will be renewed or he or she will be requalified as described above.

APPENDICES

- A-1 Category Qualification Record
- A-2 Area Qualification Record
- A-3 Employee Training Requirements
- A-4 New Employee Orientation
- A-5 Qualification Change Request Form

STANDARDS AND CALIBRATION LABORATORY

Category Qualification Record

Employee: _____ Z#: _____

Area: _____ Subsection: _____ Description: _____

Theory of Operation:

Operation of Equipment
Applications
Specifications

Qualified Trainer Initials: _____

On Job Training:

Safety
Calibration Method

Qualified Trainer Initials: _____

Calibrations:

Technician does one or more
calibrations with supervision.

Qualified Trainer Initials: _____

Qualification

Based on the completion of supervised calibrations, I have determined that the above employee is qualified to perform calibrations independently in this category.

Qualified Trainer: _____ Date: _____

STANDARDS AND CALIBRATION LABORATORY

Area Qualification Record

Employee:_____ Z#:_____

Area:_____ Description:_____

Qualification

Based on the completion of a sufficient number and diversity of calibrations to assure a mature level of judgement with respect to new or different instruments, I have determined that the above employee is qualified to perform calibrations independently in this area.

Team Leader:_____ **Date:**_____

**STANDARDS AND CALIBRATION LABORATORY
EMPLOYEE TRAINING REQUIREMENTS**

Employee: _____ Z#: _____

Training Requirement	Frequency of Retraining
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Team Leader: _____ Date: _____

Group Leader: _____ Date: _____

**Standards and Calibration Laboratory
New Employee Orientation**

_____ Complete Laboratory new employee orientation and ES&H briefing from LANL staff.

The following documents and orientation will be provided by SCL personnel:

_____ Escort employee to all SCL areas and introduce to personnel.

_____ Security Briefing (Your Security Responsibilities at LANL)

_____ LANL ES&H Manual, Administrative Requirement 1-9, *Hazard Communication*

_____ SCL Job-Specific Hazard Communication

_____ SCL Visitor Safety Guidelines

_____ NFPA Hazard Rating Chart located at SM-39 (*Wall of Rm 15M*)

_____ Quality Assurance Program Plan (SCL-PD-0001)

_____ Calibration Process Manual (SCL-PD-0002)

_____ Calibration Handbook (LALP-93-47)

This certifies that the undersigned employee has received the Standards and Calibration Lab New Employee Briefing. All materials provided to the employee have been read and the employee has had an opportunity to ask questions in order to understand them.

Employee Signature: _____ Date: _____

Orientation given by: _____ Date: _____

QUALIFICATION CHANGE REQUEST FORM

AREA	SUBDIVISION	CATEGORY DESCRIPTION	ACTION	METHOD	QUALIFICATION DATE

Action:

Q = Qualification
D = Disqualification

Method:

A = Assessment
O = On-Job-Training

Change Requested for: _____ Date: _____
Approved by: _____ Date: _____
Entered in Metrology Database by: _____ Date: _____

Note: For Assessment Method qualification, justification memo must be in employee's training file.
For On-Job-Training qualification, Calibration Qualification Record or Category Qualification Record must be in employees training file.